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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.       | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------------|------------------|
| 10/651,598  | 08/29/2003  | Norbert A. Feliss    | HIT1P033/HSJ9-2003-0158US | 9699             |
| 50535   | 7590        | 05/26/2005           |                           | EXAMINER         |
| ZILKA-KOTAB, PC<br>P.O. BOX 721120<br>SAN JOSE, CA 95172-1120 |             |                      | LETSCHER, GEORGE J        |                  |
|   |             |                      | ART UNIT                  | PAPER NUMBER     |
|   |             |                      | 2653                      |                  |

DATE MAILED: 05/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                |                  |
|------------------------------|--------------------------------|------------------|
| <b>Office Action Summary</b> | Application No.                | Applicant(s)     |
|                              | 10/651,598                     | FELISS ET AL.    |
|                              | Examiner<br>George J. Letscher | Art Unit<br>2653 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 29 August 2003.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-25 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-25 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 August 2003 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 8/29/03.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5, 8, 11-14, 17, 20-22 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Koyanagi et al (US 6,785,090).

The aforementioned claims recite the following features, *inter alia*, disclosed in Koyanagi et al: the composite ring for coupling a disc to a spindle having upper (stainless steel – (21)) and lower (titanium – (51)) layers. These materials meet claims 2-5, 11-14 and 20-22 units of measurement/ratios by virtue of stainless steel and titanium's material properties for hardness, modulus of elasticity and coefficient of thermal expansion. See Figure 6 of Koyanagi et al and its accompanying description in columns 11-12, lines 16-55 and 30-47, respectively. The upper and lower layers are mechanically bonding by virtue of the screw (22) pressing them together.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2653

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 6, 15 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyanagi et al in view of Okumura et al (US 6,215,617).

The description of Koyanagi et al is in paragraph 2, supra.

Regarding claims 6, 15 and 23, Koyanagi et al do not disclose the lower layer being glass or aluminum.

Okumura et al show its composite ring lower layer, i.e., shim (110 or 210 or 310), being a glass.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have furnished the disc composite clamping ring assembly having a titanium lower layer as taught by Koyanagi et al with the lower layer being glass as shown in Okumura et al. The rationale is as follows: one of ordinary skill in the art would have been motivated to have furnished the disc composite clamping ring assembly having a titanium lower layer as taught by Koyanagi et al with the lower layer being glass as shown in Okumura et al since the coefficient

of thermal expansion would have finished to a smoothness and excellent plane accuracy with the disk in the assembly, thereby avoiding any impairment to flatness of the disk; see column 15, lines 30-43 of Okumura et al.

6. Claims 7, 9, 16, 18 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyanagi et al in view of Renken (US 6,741,418).

The description of Koyanagi et al is in paragraph 2, supra.

Regarding claims 7, 16 and 24, Koyanagi et al do not disclose a middle layer between the upper and lower layer. Regarding claims 9 and 18, Koyanagi et al do not disclose the upper and lower layer coupled by an adhesive.

Renken shows a disk clamp assembly having an upper layer (162), lower layer (158) and middle layer (160); see Figure 6. An adhesive joins the layers together; see column 7, lines 10-15 of Renken.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have furnished the disc composite clamping ring assembly having an upper and lower layer as taught by Koyanagi et al with a middle layer between the upper and lower layer joined by an adhesive as shown by Renken. The rationale is as follows: one of ordinary skill in the art would have been motivated to have furnished the disc composite clamping ring assembly having an upper and lower layer as taught by Koyanagi et al with a middle layer between the upper and lower layer joined by an adhesive as shown by Renken since the firmly joined three layer arrangement allowed balancing of the spindle hub assembly; see column 2, lines 43-51 of Renken.

7. Claims 10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyanagi et al.

The description of Koyanagi et al is in paragraph 2, supra.

Regarding claims 7, 16 and 24, Koyanagi et al do not disclose the layers coupled together at a molecular level.

Official notice is taken of the fact that molecular coupling (via welding) was notoriously old and well known in the art at the time the invention was made.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have furnished the clamping assembly of Koyanagi et al with the clamping upper and lower layers coupled at a molecular level. The rationale is as follows: one of ordinary skill in the art would have been motivated to have furnished the clamping assembly of Koyanagi et al with the clamping upper and lower layers coupled at a molecular level since molecular level coupling provided a secure attachment between clamping layers, thereby insuring long term accuracy for the disk arrangement which allowed the read/write heads close alignment with the disk over the life of the drive.

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George J. Letscher whose telephone number is 571-272-7591. The examiner can normally be reached on a Conventional work schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-437-3785 (toll-free).



*George J. Letscher*  
Primary Examiner  
Art Unit 2653

GJL  
5/24/05